What is claimed is:

1. An optical fiber having a length of one kilometer (1 km) or more and an average transmission loss at a wavelength of 1383 nanometer (nm) less than average transmission loss at a wavelength of 1310 nm,

wherein the maximum value of transmission loss at the wavelength of 1383 nm in any 1 km section taken along the optical fiber does not exceed an average transmission loss at the wavelength of 1383 nm over the entire length of the optical fiber by 0.03 dB/km or more.

2. The optical fiber according to claim 1, wherein the maximum value of transmission loss at the wavelength of 1383 nm in any 1 km section does not exceed the average transmission loss at the wavelength of 1383 nm by 0.01 dB/km or more.

3. The optical fiber according to claim 1, wherein a cable cutoff wavelength at a length of 22 meter (m) is less than 1380 nm.

4. The optical fiber according to claim 1, wherein the average transmission loss at the wavelength of 1383 nm is less than the transmission loss at the wavelength of 1310 nm after hydrogen aging.

5. An optical fiber having an MFD of 8 micrometer (μm) or more at 1310 nm, zero dispersion wavelength out of a wavelength range of 1280 to 1324 nm, a dispersion in said wavelength range of 0.1 to 8.0 picosecond/nanometer/kilometer (ps/nm/km) in absolute value, a dispersion slope of 0.1 picosecond/nanometer2/kilometer (ps/nm2/km) or less, a cutoff wavelength determined according to a 22 m method not more than 1270 nm and an average transmission loss at the wavelength of 1310 nm of 0.4 dB/km or less.

6. The optical fiber according to claim 5, wherein said optical fiber has MFD at 1310 nm of 9.5 μm or less.

7. The optical fiber according to claim 5, wherein a zero dispersion wavelength exist within a wavelength range of 1325nm to 1350 nm.

8. The optical fiber according to claim 5, wherein an MFD at 1310 nm is A (μm) and a cutoff wavelength determined according to a 22 m method is B (nm), with satisfying $A \times B \leq 11*1000$.

9. The optical fiber according to claim 5, wherein an average transmission loss at the wavelength of 1383 nm is less than an average transmission loss at the wavelength of 1310 nm.

10. The optical fiber according to claim 9, wherein an increase in transmission loss at wavelength of 1383 nm after hydrogen aging is 0.04 dB/km or less.

11. A manufacturing method of an optical fiber having a mode field diameter of 8.0 to 11.0 μm at a wavelength of 1310 nm, an average transmission loss at a wavelength of 1383 nm less than an average transmission loss at a wavelength of 1310nm, and a dispersion of +2 to +8 ps/nm/km at the wavelength of 1383 nm, comprising:

drawing the optical fiber from an optical fiber perform; applying coating resins on said optical fiber; and

exposing said optical fiber to a deuterium containing atmosphere.

12. The manufacturing method of an optical fiber according to claim 11, wherein the optical fiber has a dispersion of +4 to +7 ps/nm/km at a wavelength of 1383 nm.

13. The manufacturing method of an optical fiber according to claim 11, wherein said step of exposing is performed by exposing the optical fiber to the deuterium containing atmosphere under an ordinary pressure at an ordinary temperature.

14. The manufacturing method of an optical fiber according to claim 13, wherein the exposing time in said step of exposing is 24 hours at longest.

15. The manufacturing method of an optical fiber according to claim 11, wherein an increase in transmission loss at the wavelength of 1383 nm after hydrogen aging is 0.04 dB/km or less.

16. The manufacturing method of an optical fiber according to claim 11, wherein an increase in transmission loss at the wavelength of 1383 nm after hydrogen aging is 0.01 dB/km or less.

17. A manufacturing method of an optical fiber, including an exposing step of exposing the optical fiber after drawing to a deuterium containing atmosphere, wherein a difference between average transmission losses respectively at the wavelengths of 1385 nm and 1420nm before said exposing step becomes different from a difference between average transmission losses respectively at the wavelengths of 1385 nm and 1420nm after said exposing step, by 0.01dB/km or more at least one time.

18. The manufacturing method of an optical fiber according to claim 17, wherein a time interval from the time point at which said deuterium processing is started to the time point at which said transmission loss is measured is 48 hours or more at 25°C.

19. The manufacturing method of an optical fiber according to claim 17, wherein the length of the optical fiber is 10 km or more and a cable cutoff wavelength at a length of 22 m of 1300 nm or less.

20. A manufacturing method of an optical fiber, comprising:

drawing the optical fiber from an optical fiber perform; winding said optical fiber around a bobbin; and

immediately exposing said optical fiber to a deuterium containing atmosphere, wherein

said optical fiber is rewound around another bobbin while applying tensile tension, before said deuterium is completely degassed from said optical fiber.

21. The manufacturing method of an optical fiber according to claim 20, wherein said tensile tension corresponds to 0.5% to 2% in tensile strain of the optical fiber.

22. The manufacturing method of an optical fiber according to claim 20, wherein said optical fiber is cut and divided into predetermined lengths in the longitudinal direction when said optical fiber is rewound.